

INCH-POUND

MIL-DTL-12883/10F  
18 February 2003  
SUPERSEDING  
MIL-PRF-12883/10E  
28 June 1996

## DETAIL SPECIFICATION SHEET

### SOCKETS AND ACCESSORIES FOR PLUG-IN ELECTRONIC COMPONENTS (ELECTRON TUBE, BOTTOM MOUNTING, SADDLE TYPE WITHOUT SHIELD BASE, 7 CONTACT, RADIAL)

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification and the: MIL-DTL-12883.

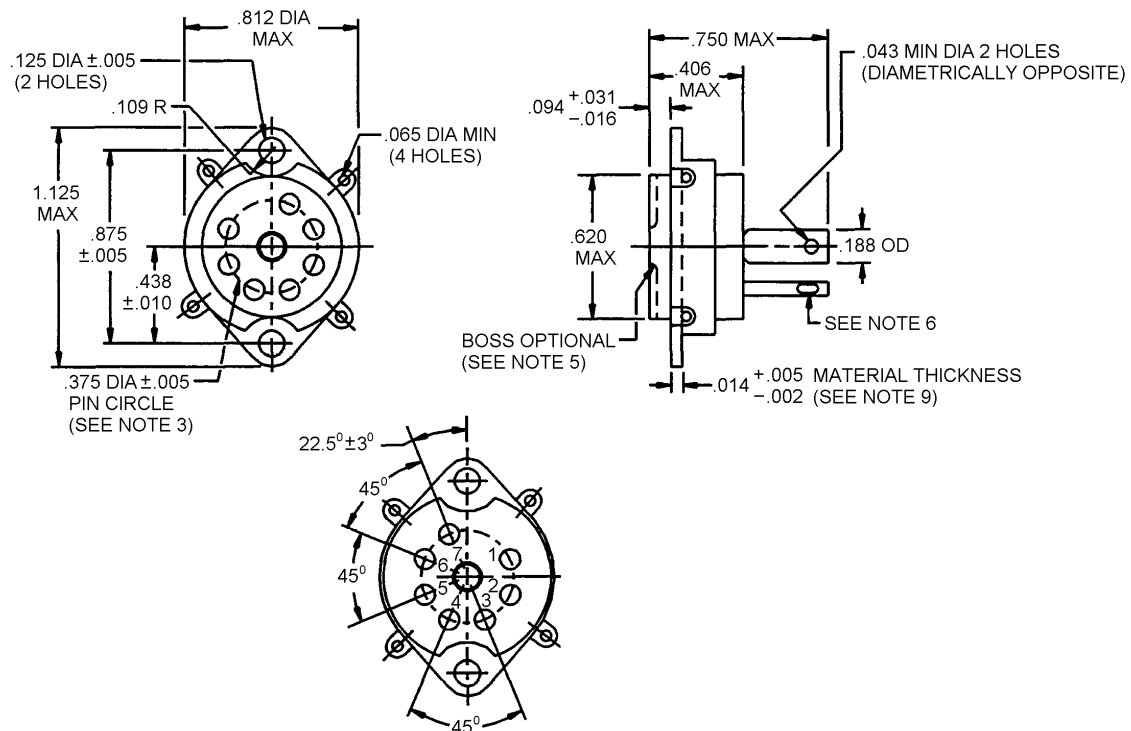


FIGURE 1. Socket configuration.

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Inches	mm	Inches	mm	Inches	mm	Inches	mm
.002	0.05	.031	0.79	.125	3.18	.620	15.75
.005	0.13	.043	1.09	.188	4.78	.750	19.05
.010	0.25	.065	1.65	.375	9.53	.812	20.62
.014	0.36	.094	2.39	.406	10.31	.875	22.23
.016	0.41	.109	2.77	.438	11.13	1.125	28.58

## NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is  $\pm .016$  inch (0.41 mm) and  $\pm \frac{1}{2}^\circ$  on angles.
4. Seven contact cavities equally spaced throughout  $270^\circ$  of arc, and each cavity located within  $\frac{1}{2}^\circ$  of true position, shall be established along the pin circle.
5. Each contact tab shall have either:
  - a. 1 wire hole of .040 inch (1.02 mm) minimum width and .125 inch (3.18 mm) minimum length.
  - b. Two holes of .040 inch (1.02 mm) minimum width and .075 inch (1.91 mm) minimum length.
 The contact tab hole, or holes shall lie on the longitudinal centerline of the contact tab within  $\pm .008$  inch (0.20 mm).
6. The design of bosses and the shape of barrier, when use, are optional. When present, barriers shall have a maximum height of .062 inch (1.57 mm).
7. Clearance between the cavity wall and the contact, with the contact in any position, shall be no greater than .018 inch (0.46 mm).
8. Marking shall be at any convenient visible location.
9. Material thickness of mounting flange shall be measured in an area where burring or dishing of the mounting hole is not present.

FIGURE 1. Socket configuration – Continued.

## REQUIREMENTS:

Dimensions and configurations: See figure 1 and table I.

Insulating material: Ceramic, Diallyl Ortho-Phthalate in accordance with ASTM PS 15 type, SDG-F, GDI-30F, or mineral-filled Phenolic resin in accordance with ASTM D5948 type MFE, see table I.

Contact cavities: One shape only; D-shaped or circular, at option of the manufacturer.

Float: With a pin of .041 inch (1.04 mm) diameter and .271 inch (6.88 mm) minimum length fully inserted in a socket contact, the contact shall be capable of free movement (float) within the contact cavity.

Saddle: The method of attaching the saddle to the insulator body, and the shape of the saddle where attachment is effected, are optional.

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Electrical:

Insulation resistance: 1,000 megohms minimum. Test pin diameter:  $.040 \pm .001$  inch ( $1.02 \pm .03$  mm).

Dielectric withstanding voltage:

Sea level: Test voltage: 2,000 volts root mean square (ms). Test pin diameter  $.040 \pm .001$  inch ( $1.02 \pm .03$  mm).

High altitude: Test voltage: 660 volts ms. Test pin diameter:  $.040 \pm .001$  inch ( $1.02 \pm .03$  mm).

Contact resistance:

Average for all contacts: 0.015 ohm maximum.

Individual contacts: 0.03 ohm maximum.

Continuity test circuit: With the header test-gage(s) inserted into the socket(s) under test, the pins of the test-gage(s) and the contacts of the socket(s) under test, shall result in a series circuit. The header shall be the one used for electron tube 6AU6WB.

Mechanical:

Insertion and withdrawal force:

Initial insertion force: 15 pounds (67 newton) maximum.

Average insertion force: 12 pounds (53 newton) maximum.

Initial withdrawal force: 4 pounds (18 newton) minimum, 12 pounds (53 newton) maximum.

Vibration: The test gage shall be an approved electron-tube type 6AU6WB, in accordance with MIL-E-1/952.

Durability: After the durability test, the withdrawal force shall be 2 pounds (9 newton) minimum.

Static load: 40 pounds (178 newton).

The part shall be designed to operate at the following conditions:

Environmental:

Operating temperature: See table I.

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TABLE I. Dash number and characteristics.

Dash number	Operating temperature °C	Insulating material	Old type designator <u>1/</u>
-01	200	Ceramic	TS102C02 (2-way)
-02	100	SDG-F, GDI-30F	TS102P02 (1-way)
-03	200	MFE	TS102P02 (2-way)

1/ 1-way replacement: The new item (designated by military part number) will replace the old item (formerly designated by type designator); however, the old item will not replace the new item.

2-way replacement: The new items are interchangeable; i.e., the new item will replace the old item, and the old item will replace the new item.

Ratings (absolute maximum):

Voltage:

Sea level: 500 volts rms.

50,000 feet (15.24 km): 225 volts rms.

Current: 5 amperes.

Operating temperature: See table I.

Test gage details: See table II and MIL-DTL-12883 (see appendix).

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TABLE II. Test gage details. 1/ 2/

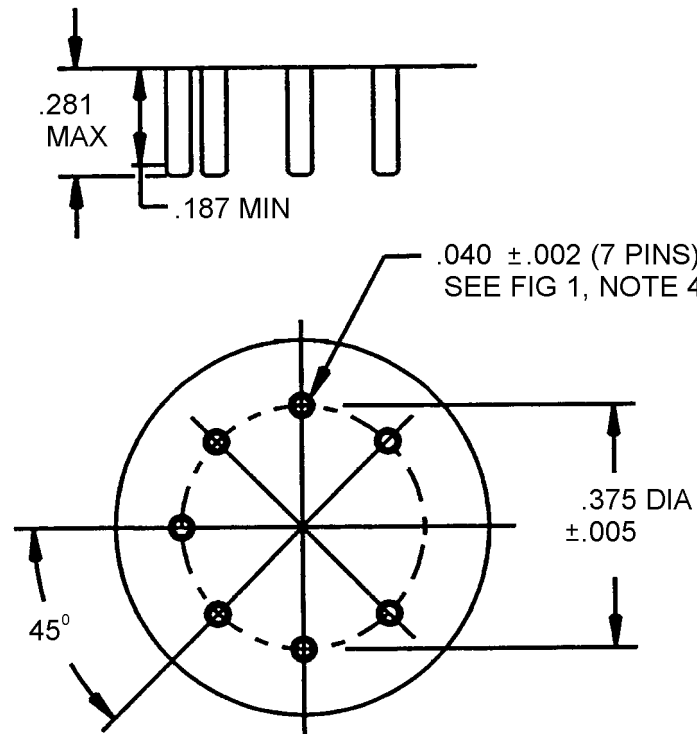
Inspection	A Pin length (mm)	B Pin dia (mm)	M Test-end dia (mm)	C Pin-circle dia (mm)	N Probe-end dia (mm)
Insertion and withdrawal force	.276 $\pm$ .005 (7.01 $\pm$ 0.13)	.0390 $\pm$ .0001 (0.991 $\pm$ 0.003)	---	.3750 (9.525) basic	---
Contact resistance	.276 $\pm$ .005 (7.01 $\pm$ 0.13)	.0390 $\pm$ .0001 (0.991 $\pm$ 0.003)	---	.3750 (9.525) basic	---
Contact retention	.276 $\pm$ .005 (7.01 $\pm$ 0.13)	---	.0390 $\pm$ .0001 (0.991 $\pm$ 0.003)	---	.0410 $\pm$ .0001 (1.041 $\pm$ 0.003)
Durability	.276 $\pm$ .005 (7.01 $\pm$ 0.13)	.0410 $\pm$ .0001 (1.041 $\pm$ 0.003)	---	.3750 (9.525) basic	---

Inspection	D Gage dia max (mm)	No. of pins	Total weight of gage ounces (grams) ( $\pm$ 5%)
Insertion and withdrawal force	11/16 (17.46)	7	---
Contact resistance	11/16 (17.46)	7	---
Contact retention	---	---	3 (85.05)
Durability	11/16 (17.46)	7	---

1/ Dimensions are in Inches.

2/ Metric equivalents are given for general information only.

Mating-base dimensions: Sockets shall accommodate plug-in components having mating-base dimensions as shown on figure 2.



Inches	mm
.002	0.05
.005	0.13
.040	1.02
.187	4.75
.281	7.14
.375	9.53

NOTES:

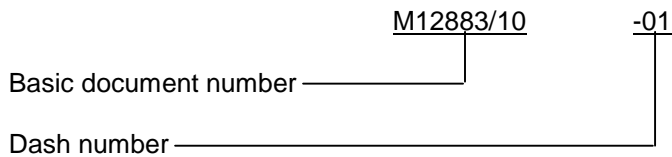
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FIGURE 2. Mating-base dimensions.

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Part or Identifying Number (PIN): The PIN shall consist of the basic number of this specification sheet and the dash number from table I.

Example:



The Government PIN, specified in table III, supersedes the following commercial PINs.

TABLE III. Supersession and cross reference data.

Active Government PIN	Superseded PIN
	CAGE 72825
M12883/10-01	9726-153-03

## CONCLUDING MATERIAL

### Custodians:

Army – CR  
Navy – EC  
Air Force – 11  
DLA – CC

### Preparing activity:

DLA – CC

(Project 5935-4344-05)

### Review activities:

Army – AR, AT, AV, CR4, MI  
Navy – AS, CG, MC, OS, SH  
Air Force – 70, 99